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This infrastructure enhancement grant was awarded on September 15, 1995, for the purpose of expanding a biomolecular shared resource for breast cancer research. The expansion was to provide breast cancer researchers at the Lombardi Cancer Center with a centralized resource for such modern technologies as Mass Spectrometry, Automated DNA Sequencing/Fragment Analysis and Phosphorimaging. As per the purpose of this award, three major pieces of equipment were purchased over the past year. **A Molecular Dynamics PhosphorImager System - Model # 445 SI - was purchased on December 16, 1995 for the price of $95,600. An ABI Prism Automated DNA Sequencer/Fragment Analyzer - Model # 377A - was purchased on March 15, 1995 for the price of $136,421. A Sciex LC/MS Ionspray Infusion System-Model # API 100- was purchased on August 1, 1995 for the price of $108,500.** These instruments have been or soon will be integrated into the Macromolecular Synthesis and Sequencing Core Facility. The purchase of these pieces of equipment provides breast cancer researchers at the Lombardi Cancer Center with access to the modern technologies of Mass Spectrometry, Automated DNA Sequencing/Fragment Analysis and Phosphorimaging. The grant agreement is now complete.

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N/A For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

N/A In conducting research utilizing recombinant DNA technology, the investigator(s) adhered to current guidelines promulgated by the National Institutes of Health.

N/A In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

✓ In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.

Carolyn Katovich Duly 9/14/95

PI - Signature Date

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Introduction

This infrastructure enhancement grant was awarded on September 15, 1995, for the purpose of expanding a biomolecular shared resource for breast cancer research. The expansion was to provide breast cancer researchers at the Lombardi Cancer Center with a centralized resource for such modern technologies as Mass Spectrometry, Automated DNA Sequencing/Fragment Analysis and Phosphorimaging.

As per the purpose of this award, three major pieces of equipment were purchased over the past year, a **Phosphorimager**, an **Automated DNA Sequencer/Fragment Analyzer** and a **Mass Spectrometer**, and have been or will be integrated into the Macromolecular Synthesis and Sequencing Core Facility, thus completing the grant agreement.

Body

Details of the equipment purchased follow below:

1. PhosphorImager System

A Molecular Dynamics PhosphorImager System - Model # 445 SI - was purchased on December 16, 1995 for the price of $95,600.

The system included a Dell Pentium workstation with the ImageQuant software, packages of small and large storage phosphor screens including one for tritium, DNA sequencing software, IP Lab Gel software for Macintosh workstations, and a site license for the imagequant software.

The instrument has been set up, with its workstation, in the Macromolecular Synthesis and Sequencing Core Facility, for shared use by researchers in the Lombardi Cancer Center. The ImageQuant software has also been loaded on the Lombardi computer network, so that researchers can analyze their data at their own workstations as well. The instrument is currently utilized by more than 18 researchers with approximately 90% of instrument time being taken by breast cancer researchers.

2. Automated DNA Sequencer/Fragment Analysis System

An ABI Prism Automated DNA Sequencer/Fragment Analyzer - Model # 377A - was purchased on March 15, 1995 for the price of $136,421.

The system also included a PowerMac computer, a color printer, Sequence Analysis software, Genescan software for fragment analysis, AutoAssembler and Sequence Navigator software packages for aligning and manipulating sequence data. A Sierra Magneto-Optical Hard Drive was purchased separately ($2,898) to archive the large data files generated by the DNA sequencing service.

The instrument has been installed, and automated DNA sequencing has been established as a service, run by the personnel of the Macromolecular Synthesis and Sequencing Core Facility.

The AutoAssembler and Sequence Navigator software have been loaded on a PowerMac workstation at the core facility for data analysis by researchers. The software has also been put on the Lombardi computer network.
The service is currently utilized by about 11 researchers with approximately 70% of the samples coming from breast cancer researchers.

The Fragment Analysis service is still in the development stage and will be offered to researchers later this year.

3. Mass Spectrometer System

A Sciex LC/MS Ionspray Infusion System-Model # API 100- was purchased on August 1, 1995 for the price of $108,500.

The system includes a PowerMac Computer, LaserJet printer, infusion pump, injection valve option bracket and BioToolBox software for analyzing and manipulating mass spectral data.

The system will be delivered at the end of September 1995. After an initial period of training and development, Mass Spectrometric Analysis will be established as a service run by personnel of the Macromolecular Synthesis and Sequencing Core Facility.

Conclusion

Three major pieces of equipment were purchased over the past year, a **Phosphorimager**, an **Automated DNA Sequencer/Fragment Analyzer** and a **Mass Spectrometer**. These instruments are or will be housed and supported in the Macromolecular Synthesis and Sequencing Core Facility. The purchase of these pieces of equipment provides breast cancer researchers at the Lombardi Cancer Center with access to such modern technologies as Mass Spectrometry, Automated DNA Sequencing/Fragment Analysis and Phosphorimaging. The grant agreement is now complete.